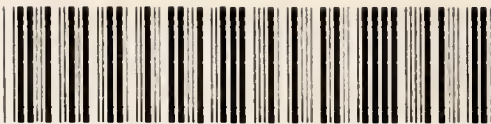


The
GAME
of HEALTH

L. HOWELL TAYLOR






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THE GAME OF HEALTH

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With Introductory Note by
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INTRODUCTORY NOTE.

Startling figures have in recent years impressed forcibly on the public mind the poorness of our physique as a nation, and great efforts are being made all over the country to raise the standard of health.

Much has been done to interest people in the question of diet and in the general rules of health, but these people are adults and have already formed habits and modes of thought which fetter them like shackles. It is all important to "train a child in the way it should go, so that when it is old it shall not depart from it." This applies to its physical health quite as much as to its education and moral training, and it is of vital necessity to our health as a nation that each individual should realise the duty he owes to himself and to his country. It is at school, where teachers have their characters in the making, that children should be trained in the "Team Spirit"—the greatest good of the greatest number.

Apart from other considerations, a healthy child is generally a contented one and is much less fractious and difficult to educate than one who, in addition to struggling with the multitudinous problems of life, has to contend with more or less indifferent health, and thus misses a great deal of pleasure and much profit.

This book—written in a way likely to appeal to its young readers—ought to commend itself greatly to teachers as, in addition to conferring the inestimable advantage of good health on their pupils, it will thereby greatly lighten their often difficult and always responsible duties.

The subject is one I have very much at heart, and I have every confidence in most cordially recommending it to the notice of all those who have the care and training of our boys and girls.

W. ARBUTHNOT LANE.

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THE DISCUS THROWER.

THE GAME OF HEALTH.

CHAPTER I.

GAMES.

“I can hear the children shouting
In the playground of the school,
Merry-hearted little spirits,
Breaking free from task and rule.”

It is the natural desire of young people to play games, and all over the world there are children taking delight in showing their skill in play. Many of our modern games go back to remote times. Football, for instance, is said to have been played in Ireland 2,000 years ago, though, of course, not in the same form as to-day. Ball games appear in various forms in other countries. Nations so different as the Maoris, Eskimos, and Burmese each have their kind of football. The Burmese game is played with a wicker ball which is propelled with the knees or bare feet. Thus cricket, hockey, golf, and other games have all developed from earlier types, the origin of which is lost in the dim ages.

In the old days of Greece and Rome, athletic games took a prominent part in the life of

these two great nations. Their games were athletic contests and displays, and were generally associated with religious festivals. Particularly in the case of Greece, they were the means of moulding the national character and producing a fine type of physical development. The athletes themselves had to be of pure descent, and to have no civil or religious stain. They had to undergo ten months' continuous training and to use no fraud or guile. The games consisted of foot races—who has not heard of the Marathon race?—wrestling, jumping, and chariot racing. There were no professionals in those days. The prize was—a garland of olive leaves.

The aim of those ancient Greeks was to rear a strong and healthy race. Girls as well as boys went through their exercises in physical training. The Greeks knew that they could not afford to train only the boys and neglect the health of the girls, as was our custom not so long ago.

In the history of our own country, we find various references to games, more especially to football. In 1349, in the reign of Edward III., we read, an edict was issued forbidding football and other amusements in order to encourage archery. James II. of Scotland also tried to forbid football. "I think," he said, "exercises of the body most commendable to be used in such honest games and pastimes as may further ability and maintain health. But

from this count I debar all rough and violent exercises as the football." It is to be feared that such opinions would not be very popular to-day. Of course, in those far-off times, the games were probably much rougher and more dangerous than they are now-a-days. The rules now governing them are of quite recent development. One of their best and most marked features is the team spirit—the feeling that prompts each player to act less as an individual than as a member of a team and subject to its captain.

All the great games are played out-of-doors, and their aim and object should be to develop a healthy mind in a healthy body. They should not, however, be carried to excess. No good can result if we allow play to rule our thoughts and waste our energies. The present time is remarkable for the development of sport all over the world, and in this our own country can claim to have taken the leading part. Games are of great value in the formation of the national character. They encourage healthy rivalry and the sense of fair play in training boys and girls to "play the game" and to refrain from doubtful and underhand methods of winning. They also instil the idea that the aim to strive after is not our own success, but that of the team. Last, but not least, they teach us that if we are to succeed in games we must keep our bodies in good condition by training and by regular habits of life.

CHAPTER II.

THE HEALTH TEAM.

HEALTH enters into every game, and none can be played well without it. If you want to succeed in your favourite one, be it football, cricket or hockey, you should be keen on another—the Game of Health. This has been aptly called the “King of Games.” The better you play it, the better you will play any other. It is truly a team game, with captain and players, and it is essential that the members of the team should act in combination according to the rules and be under the guidance of the captain.

In other sports there may be one or more poor players, but if the rest are skilful the contest may still be won ; not so in the game of health. The opponents are ever on the alert to take advantage of a slip. They do not stand on ceremony, and are hard to keep in check. To achieve success, practice of the rules day by day is necessary. No one can expect to gain skill and knowledge in any sport except by practice, and the game of health is no exception.

To describe this game. Let us start with the players, and afterwards give the rules and a general account of it and of our opponents. You will see from the undermentioned list of players that it somewhat resembles football or hockey:—

THE HEALTH TEAM.

Brain (Capt.).

Stomach.

Lungs.

Heart.

Hands.

Feet.

Nose.

Skin.

Eyes.

Ears.

Mouth.

O

Dust. Damp. Impure Air. Dirt. Impure Food. Cold. Insects. Germs.

Ignorance.

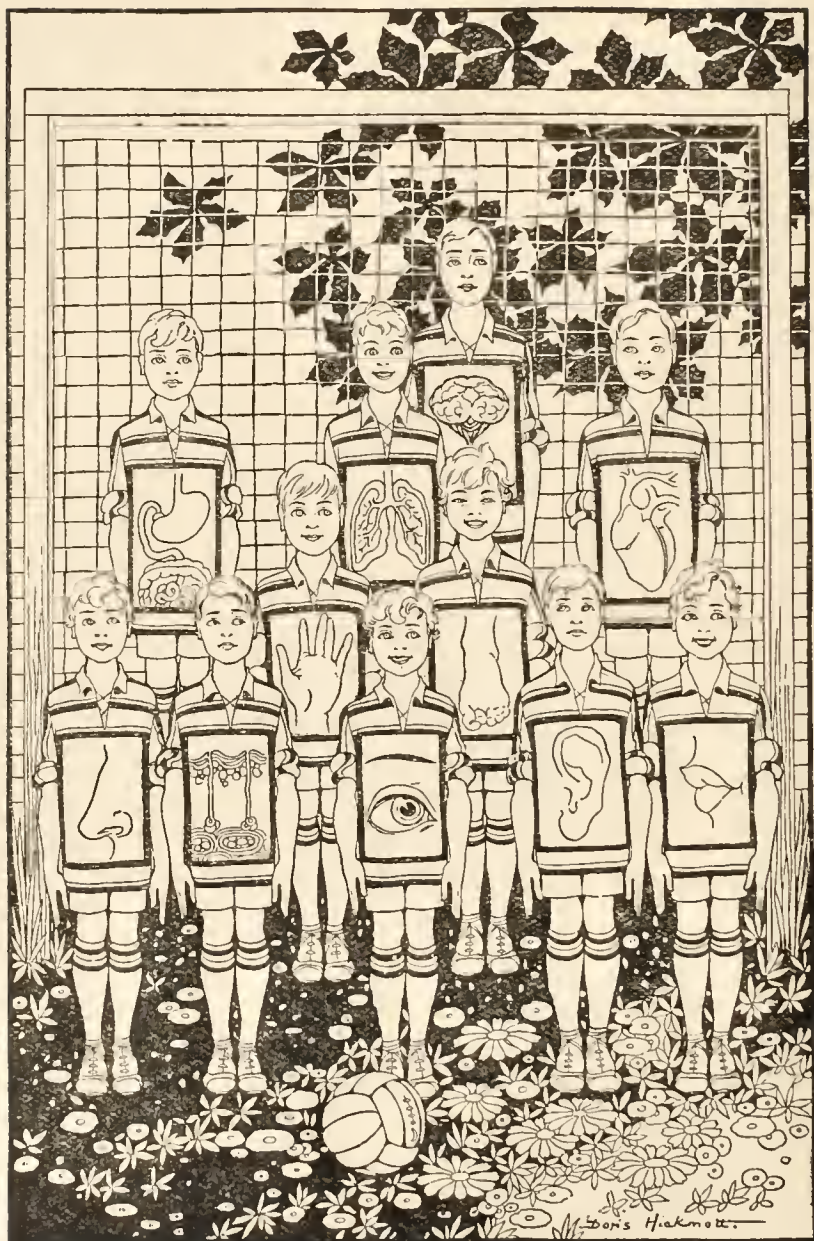
Laziness.

Disease (Capt.).

THE DISEASE TEAM.

In the front rank of our team are the five senses, seeing, hearing, tasting, smelling, and feeling. Contrary to the practice in most games of using the forwards for attack, our forwards are used mainly for defence. They are the scouts which give warning of danger. Behind the forwards is our second line, consisting of the muscles, the most important of which are those that move the hands and the feet. The

THE HEALTH TEAM.



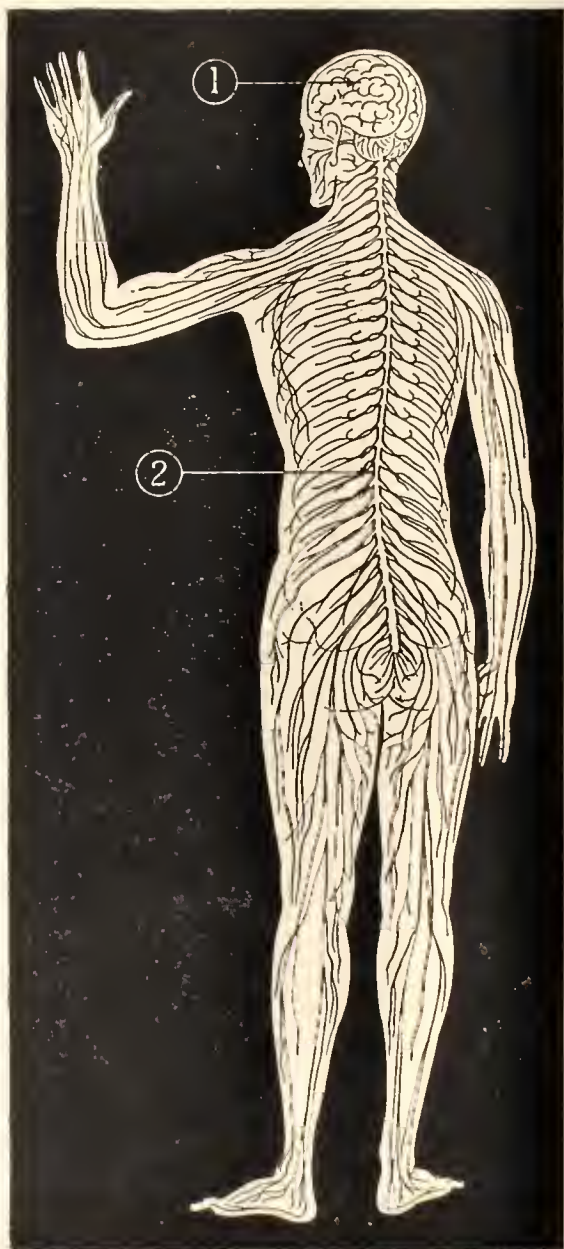
		Thinker (Capt.).		
		Breather.		Beater.
Digester.	Worker.		Walker.	
Smeller.	Feeler.	Looker.	Hearer.	Eater.

hands, of course, are our principal means of attack. In the third line are the organs which nourish the body—the lungs, the heart, and the stomach. Behind all is the brain, the captain of the team. He is the one who controls the game on our side. Without his skilful direction all would be lost.

The Captain—BRAIN.

The brain consists of a mass of grey and white matter, set at intervals with nerve cells, and occupies the cavity of the skull—the cap that protects it from injury. It is prolonged in the spinal cord, which runs through the spine or backbone, as it is called. Between the small bones which compose the backbone it sends out nerves which in turn send branches to the muscles, the lungs, the heart, and the other organs, and to every part of the body. In this way, the whole of the body is connected up with the brain, as by so many telegraph wires. Unlike telegraph wires, however, the individual nerves can carry telegrams in one direction only, either to the brain or from the brain. Our forwards are responsible for sending the messages, and the brain, acting on these, warns our second line, the muscles. Let us see how this works. Suppose you are coming home from school and your eyes see the mat at the front door. A message is immediately

THE GAME OF HEALTH.
THE NERVOUS SYSTEM.



① BRAIN.

② SPINAL CORD.

sent to the brain, and you wipe your feet. Or, the skin of your feet may send a message that they are cold and damp, and you make up your mind to change your shoes and stockings at the first opportunity. Of course, your forwards may not be good players of the health game. Your eyes may not see the mat, and you may allow dirt to enter your home, and dirt is one of your strongest opponents.

**The Forwards : EYE, EAR, NOSE, MOUTH,
and SKIN.**

The eye is the centre forward. You know how in all ball games there is one golden rule, "Keep your eye on the ball." So in the health game, the trained eye is the forward on which most depends. It should be ever on the alert against dirt and all forms of uncleanness. In order that the eye may be able to do its duty properly, it should have every assistance. Reading in a bad light or reading small print puts a strain on the eyes, and may do them injury. Headaches are often caused by bad eyesight, and may be relieved by the use of glasses for reading. Many boys and girls dislike wearing these, because they imagine it does not improve their appearance. Still, poor sight is such a great disadvantage in this game that too much care cannot be taken of the eyes.

Our second forward, the ear, has a very important duty to perform. Everyone knows what a great handicap deafness is to progress in school. Earache and noises in the ear are warnings which should not be neglected. Repeated colds and slight recurring deafness are often due to adenoids, or growths at the back of the nose, which may require removal. Some young people make a practice of picking their ears with pointed articles. This is a dangerous thing to do, and may cause damage to the drum of the ear. There is a saying: "If you pick your ear, do it with your elbow"—that is, not at all.

The eye and the ear have much to do with health and happiness. The eye that likes to look on things that are beautiful and the ear that finds pleasure in listening to tuneful sounds will be useful forwards.

THE NOSE.

The nose is not usually considered to be much concerned with health, but, in reality, it plays a great part. The nerve endings which convey the sense of smell to the brain are situated there. In this way it is quite an important forward in our team, inasmuch as warning is given of bad smells, of bad air in rooms, and of decaying^r matter of all sorts. By its means

also the pleasures of sweet scents and fresh air add to the enjoyment of life.

The second important duty of the nose is to filter the air which is to supply oxygen to our lungs. Now, the nostrils are fitted

Breathe in with hairs to guard against the
and out entry of dust, and their twisting
through the passages help to filter, warm, and
NOSE. moisten the air as it passes in.

When the air is sent out of the lungs, it should also pass through the nose, as it helps in turn to keep the passages of the nose moist and warm. The rule of nose breathing is one that is very frequently broken. Nothing is more common than to see people breathing through their mouths, and so allowing hordes of germs to enter the delicate throat and air passages.

Another rule for the nose is that when you cough or sneeze you should always place a hand or handkerchief before your face and turn your face away. Why? To prevent spraying germs on other people, and thus infecting them with disease. The germs of influenza are often spread in this way.

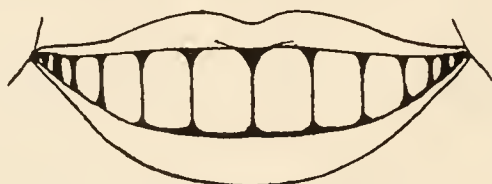
Remember always to carry a clean handkerchief, and to clear your nose if you feel it stuffed up. Avoid sniffing. This

Do NOT merely transfers to the throat
Sniff. germs which are ever present in
 the nose. In the throat they are
 liable to cause catarrh, induce adenoids, and

poison the system generally. Always clear your nose when you rise in the morning and before you go to bed. Blow one nostril at a time.

THE MOUTH.

Our fourth forward, the mouth, contains in the tongue the sense of taste, a matter of some importance in dealing with food. Food, which gives an agreeable taste to the tongue, is more easily digested, owing to the fact that the



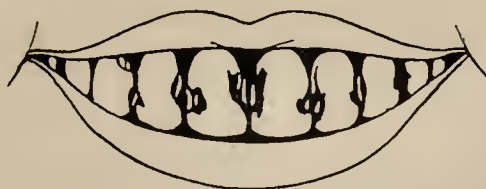
Well-cared-for Teeth.

feeling of pleasure excites the digestive juices in the mouth and in the stomach. The mouth is also concerned with the chewing of food. When a baby is six months old he begins to cut his first teeth. These are the temporary or milk teeth, which later on are shed and replaced by the permanent ones. It is of great importance that the primary teeth should be kept as long as possible, as they help in the growth of the jaws. When, in course of time they start to decay, they should have treatment

from the dentist lest the decay spread to the permanent teeth, which commence to arrive about the sixth year. Remember that the first permanent teeth come in at the back of the mouth.

The teeth are of two kinds. In the front of the mouth are the incisors or biting teeth, and at the back are the molars or grinding teeth. It is important that they be kept clean, for this helps to prevent decay, by removing the particles of food which tend to collect. Therefore, brush the teeth every day, and have them examined

**Clean the
teeth
EVERY
day.**



Teeth that have been neglected.

by the dentist once a year or oftener. There is another reason for frequent use of the tooth-brush—for the sake of appearance. No one should like to show teeth that are dirty.

Besides, bad teeth are apt to cause the breath to be unpleasant, and if the decaying matter is swallowed it is liable to poison the system and to cause disease. The

**Keep your
Tooth-brush
Clean.**

following American rhyme may point a moral :—

“ There was an old man
with a tooth
That ached till he said,
‘ It’s the truth
I neglected them young
And now I am stung.
How I wish I had
cleaned them in
youth.’ ”



The opposing team scores
a point !

The next rule for the teeth is “ Chew your food well.” Extra work is otherwise thrown on the stomach, the juices of which are unable to act easily on large pieces of food. Have you ever watched a fowl ? How greedily it eats ! Its mouth is not furnished with teeth. The morsels are swallowed whole, and so large are they that they almost seem likely to choke it. One naturally supposes a severe attack of indigestion will result. However, the bird has a very muscular and powerful stomach, or gizzard, as it is called, and it likewise swallows a quantity of grit, which acts like teeth on the food, and grinds it up. Now, you must not

bolt your food as fowls do, for you have no teeth in your stomachs. More-
Chew your over, the saliva which is given
Food WELL. out by the glands in the mouth,
 being thoroughly mixed with
 the food in the process of chewing, aids digestion.
 Do not chew only with one side of the mouth.
 For proper development of the jaws and face
 both sides require to be used.

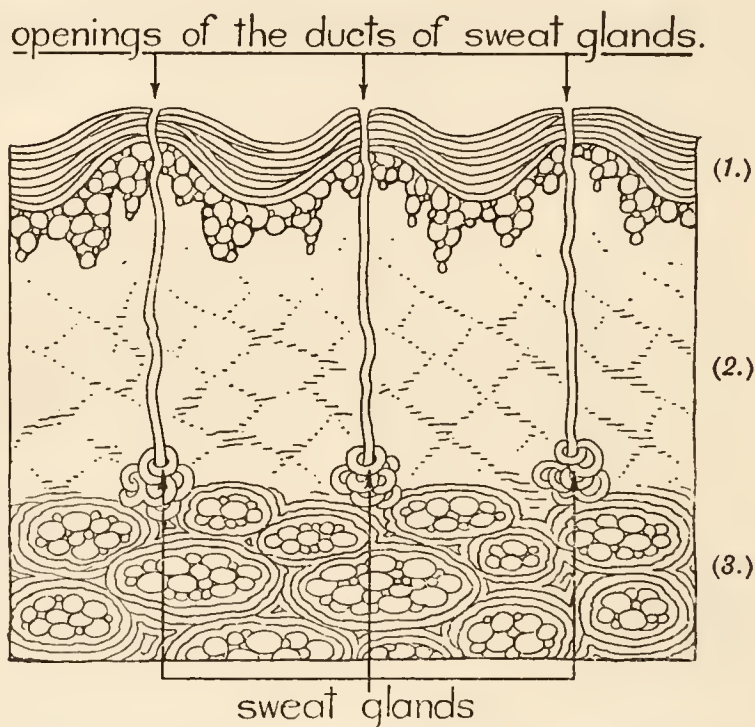
THE SKIN.

The skin, our remaining forward, has several duties to perform. In the first place, it acts as a covering to protect us from cold and heat. It also assists the kidneys in getting rid of waste matter from the system. In the skin there are two sets of glands, (1) the sweat glands, which by their moisture help to keep the heat of the body even and, further, to get rid of impurities from the body; (2) the oil glands, the fluid of which helps to protect and soften the skin.

The skin is our thermometer. It gives warning of something harmful to health if it registers a disagreeable feeling. This is an important duty of the skin. If, for instance,

Keep the on entering a room, a feeling of
Window stuffiness or discomfort is felt, it
OPEN. tells us that the air of the room
 is not in accordance with the
 rules of health. In answer to
 this warning from the skin the captain gives

the order, "Open the window." The use of this sense is one which is very apt to be neglected, with evil results to our health, and the loss of a point in the game.



A highly magnified section of skin, showing, in addition to the sweat glands, (1) the epidermis or outer skin which is constantly being shed, (2) the derma or true skin, and (3) a layer of fat.

How can we attend to the health of the skin ? In the first place, it must be kept clean, so that its glands may perform their work to the best advantage. Baths are necessary for the health

game. We have seen that the skin is constantly getting rid of sweat and impurities from the body. It is also always being renewed, the outside layers being cast off. In order that

**Keep the
Skin
CLEAN.**

its work may be properly carried on this waste matter and the old layers of the skin must be washed off frequently. For this purpose we use baths with soap and warm water. Parts of the body which sweat much—such as the armpits, between the thighs and between the toes—should be washed every day. In this connection, swimming is a useful exercise, which no one should fail to learn.

Very hot baths are not good for us, as they sometimes give rise to faintness, and in any case, baths should not be taken after a heavy meal. A hot bath is very refreshing, however, after strenuous exercise, as it relieves the feeling of fatigue. Many people are able to take cold baths in the morning. These have a bracing effect, which increases the action of all the organs of the body. Some, who find they are unable to bear the cold water, might get much benefit from a cold sponge, standing with the feet in warm water. Brisk rubbing with a rough towel should follow. This cleans the skin of its dead particles and improves the circulation.

It is better not to wash the hair more than once a week, as this is apt to remove the natural oil of the hair and make it brittle. It cannot



The Muscular System

be brushed too often, however. Brushing fulfils two purposes. In the first place, vigorous use of the brush brings the blood to the scalp, and so makes it more healthy, and, in the second place, it removes dust and scurf, which help to clog up the roots of the hair and interfere with its growth.

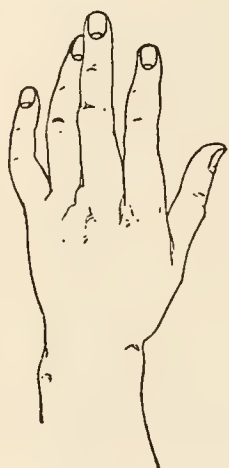
**Keep your
Hairbrush
CLEAN.**

The Half-Backs : The MUSCLES.

Having described our forwards, we now come to our second line, the muscles. These nimble half-backs are really our attacking line, inasmuch as they carry out the actions necessary for our well-being. A well-developed and well-trained muscular system is of first importance in all games. Regular physical exercise is very necessary in the health game. The tightening and stretching of the muscles assist the heart greatly in its work. The extra action of the heart caused by moderate exercise helps to flush out all our organs by sending the blood through the body and removing waste material.

Great muscular growth is not necessarily a sign of good health. Moderation applies to muscular development as to everything else in the game of health. The person who devotes his time and energy to producing big muscles frequently strains and damages his heart in the process. In our team, the muscles have

been placed in the position of attack. They carry out the instructions of their captain, the brain, when he has been notified by his scouts, the senses, that action is necessary. Hence the need for seeing that the muscles are well trained. Youth is the time for this. "Learn young, learn fair" is a good motto.



The hand as it should be.



The hand as it is too often seen
with long and dirty nails.

The care and training of the hands is important in games. They should be kept clean and in good order. Many young people pay too little attention to their nails. These ought to be kept thoroughly clean, as it is easy for dirt and disease to lodge beneath them and so to infect food. Therefore, you should wash your hands well before every meal.

Between the ages of 8 and 12 years is the

period in which the muscles that control the movements of the hands are most readily trained. After that period they become more fixed in their movements, and, being less supple, it is more difficult to use them skilfully. From the age of 12 years onwards the larger muscles which move the arms and legs come more into action.

What attention do you pay to your feet? You neglect them probably more than any part of your body, forgetting that they have helped you in many a game and in many a victory. Do you hide them away in badly fitting boots which you forget to have mended? Do you walk about in the damp so that your feet get cold, and then roast them in front of a fire? Do you wash them every day and attend to the toe-nails?

Now, foot troubles begin in childhood when the tissues and bones are soft and easily moulded into bad shapes. You may have heard how the Chinese bind up the feet of their baby girls, so that their feet remain small and become out-of-shape. This is only an extreme example of what happens when, in order to be fashionable, people wear boots which are too tight and are badly fitting. Such footwear is also apt to cause cold feet, because it cramps them by interfering with their proper blood supply, and because it does not allow of a layer of warmed air round the feet, which there would be if the boots were of a proper size. Bunions, corns,

and in-growing toe-nails are all caused by badly fitting boots. Chilblains are often the result of sitting too close to the fire.

No one who hopes to be successful in games requiring swiftness and activity can afford to have feet which are faulty. Healthy feet ought to be properly arched. If you make an imprint



1. Imprint of normal foot.



2. Imprint of flat foot.

with your wet foot on the floor, is it like (1) or (2)? If it is like (2) you are flat-footed, a condition usually due to weakness of the calf muscles. In this case, also, the feet tend to turn outwards, and do not point straight forwards, as is necessary for speed. Skipping and tip-toe exercises are good for strengthening the calf muscles and the arch of the foot.

The Backs : The STOMACH, LUNGS, and HEART.

We now come to the even more vital players of our team. They are responsible for the nourishment of the body, each of the three answering for a part of this duty. The stomach prepares the food to be absorbed, the lungs purify it, and the heart finally sends the pure blood to nourish all the tissues of the body.

The efforts of all the players in the forward and half-back lines are directed towards protecting these three important members of the team, and, in addition, the three are placed in positions of defence in the chest and lower part of the body, where they are well protected by bone and muscle.

THE STOMACH AND INTESTINES.

After the food has been chewed and mixed with saliva in the mouth, it passes along the gullet to the stomach, where it is further altered. This change is a chemical process called digestion, by which the juices given out by the stomach act on the food in such a way as to make it easily absorbed by the blood and afterwards changed into the living tissues. Any part of the food that is not absorbed passes along the intestine and out of the body by the bowel.

One of Aesop's fables tells how the other members of the body began to find fault with the stomach because they thought it lived

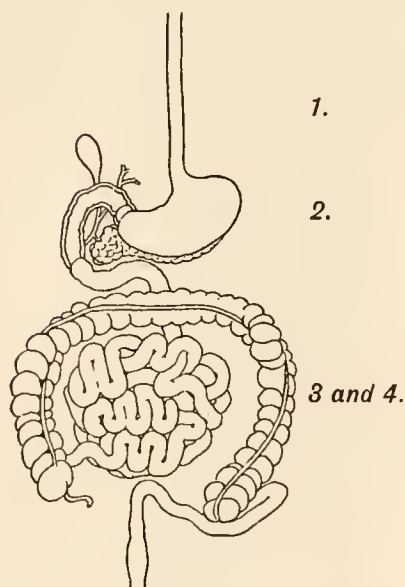


Diagram of the digestive system, showing (1) the gullet ; (2) the stomach ; (3 and 4) the small and large intestines.

an idle, luxurious life, while they were wholly occupied in labouring for its support and attending to its wants and pleasures. So they entered into a conspiracy to cut off its supplies. Another fable relates how the stomach itself went on strike because it thought it had to do all the work of providing food for the rest of the body. The result was disastrous in both cases, but the stomach had more reason to strike, as it

is almost the hardest-worked organ in the body, and the one which we are apt most to overtax. We must remember that, like everything else, the stomach requires in turn periods of exercise and rest.

Digestion of an ordinary meal takes some two or three hours, and so, allowing for an interval of one hour, four hours should elapse between meals. This ought to be a fixed rule,

in order to give the stomach enough rest. Three meals a day—morning, noon, and evening—would appear to be the proper number of meals and times of eating. There are a few rules to be observed :—

1. Eat with moderation. Get up from the table feeling that you could eat a little more.
2. Eat slowly. If you eat in a hurry you lose both the pleasure of eating and the profit of digestion.
3. Do not eat much when you are tired. The stomach is then also tired and unable to perform its work properly.
4. Do not play strenuous games immediately after a meal. It is bad for your play and bad for your digestion.
5. See that your bowels act at least once every day. You should make a practice of going to the closet every morning after breakfast, and be sure that you wash your hands every time after you do so. If you take sufficient exercise and drink plenty of plain water, you will have no trouble with your bowels. Headaches are often caused by constipation, owing to the bowels taking in poisons from the decaying matter in them.

THE LUNGS.

The lungs are the spongy organs which lie in the chest on each side of the heart. Their duty is to supply the blood with oxygen and get rid of certain impurities such as carbonic acid gas. Just as the stomach requires a proper amount of good food for the nourishment of the body, so the lungs require sufficient pure air. The rate of ordinary breathing is about 18 per minute, but this is considerably increased during active exercise. The air that is breathed in expands the lungs. Unless you breathe fully the lungs will be deprived of their proper amount of air and the blood of its oxygen. If you take as deep a breath as you can and then measure the amount of air you send out from your lungs, that amount of air is the measure of your vital capacity, and to a certain extent a measure of your fitness. In all games your breathing power is of the highest importance, and, generally speaking, if you are "short-winded," your efficiency in games will not be of the best.

It will be asked what can be done to ensure that enough air is taken into the lungs, and how our breathing capacity can be improved. The muscles which aid good breathing are the chest muscles, the diaphragm (a muscle which separates the organs in the chest from the lower organs), and the abdominal muscles. Now, these three sets of muscles we must try

to strengthen in order to develop our lungs. They are just the muscles which in the ordinary way are apt to be neglected. The muscles of the limbs are not difficult to exercise, but the breathing muscles are the better for special exercises done without clothes.* These are easily carried out if a few minutes only are devoted to them in the morning and at night.

THE HEART AND BLOOD VESSELS.

The heart lies in the chest enclosed between the lungs. It is a muscular pump which, by its regular contraction and expansion, sends the blood, by means of the blood vessels, circulating all through the body. The heart can do an enormous amount of work. To give an idea of how much it can do, it has been calculated that the work done by the heart in two years would be sufficient to lift a ton weight to the top of Mount Everest—a height of five and a half miles. In the same time it will have pumped a million gallons of blood round the body. Issuing out of the heart are the great blood vessels—the arteries and veins. The former carry the blood which the lungs have purified to all our tissues. From the tissues the blood is conveyed back to the heart and lungs through the veins, collecting in its passage the waste material which will be

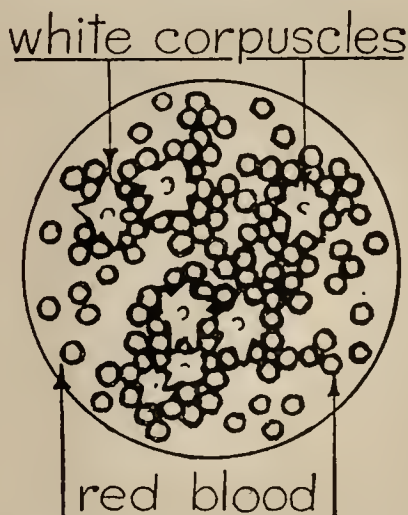
* See page 65.



Diagram showing how the arteries (light) and the veins (dark) spread to all parts of the body.

cast off in the air breathed out from the lungs, and by the kidneys.

The blood is a red-coloured fluid, bright in the arteries and dark in the veins. Contained within it are two kinds of cells : firstly, the red cells, which are much the more numerous, and have the power of taking up oxygen from the



Red and white blood cells as seen through a microscope.

air in the lungs and giving it to the tissues ; and secondly, the white cells, which help to guard the body against infection. Because they possess this function, the white cells have been called the "soldiers of the body." They are on the watch for harmful germs which may invade the body and either capture them or die in the attempt. They are also concerned with the healing of wounds.

How important it is, then, that the heart and blood should be healthy! We cannot really do much to develop the heart muscle, which, of course, is not controlled at will; but we can ensure by proper periods of exercise and rest that it is kept in good condition, especially during the period of growth. We can also take care that we do not overstrain it by too much exercise, as in long-distance running and rowing. Many young people damage their hearts in that way.

CHAPTER III.

THE OPPOSING TEAM.

To gain a knowledge of our opponents is the first step to success in every game. In the game of Health they are numerous and active, but are easily rendered powerless by our knowledge and practice of the rules. Ignorance and laziness on our part are the only things that give them any chance of success. The best plan of defence is to attack, and thus prevent them becoming dangerous.

**Prevention
is better
than Cure.**

Our early ancestors would have considered that their fiercest opponents were the wild beasts, of which they went in fear. Nowadays, though we no longer fear the creatures of the forest, we have countless opponents, many of them, unfortunately, of our own making. The progress of civilisation has caused people to migrate from the countryside with its pure air and collect in the towns where lurk our opponents—dirt, dust, and smoke.

If you will glance for a moment at the arrangement of the opposing team you will see that they are nearly all in the forward line. This means that they are meant for attack.

THE DISEASE TEAM.



Disey.

Iggy.

Lazy.

Dusty. Dampy. Stuffy. Dirty. Chilly. Mouldy. Bitey. Germy.

After all, they have nothing to guard, and do not possess a strong defence if tackled with vigour.

Forwards: DIRT.

Their great leader is their centre-forward, Dirt. He it is who is almost always in the front of the fight, and our main efforts should be directed against him and his companion, uncleanness.

Where there is Dirt there is Danger.

DUST.

Dust is a very active opponent, the harmfulness of which is largely due to the millions of germs it contains. With the exception of the open sea, high mountain tops, and moorlands, it is everywhere. Although in summer motor-cars cover with dust the hedges by the roadside, the country is comparatively free from it. Our towns, on the other hand, are bathed in dust. The constant stream of traffic is steadily churning it up. It invades our homes, our schools, and our workshops.

What can we do to prevent this state of affairs? The improvement of our streets and roads is effecting a great deal. The smooth surfaces of the tarred roads are readily cleansed

by the rain, so that dust does not lie on them. Were it not so, the great amount of traffic would make it impossible for people living near them to keep healthy. The cleansing of our streets, then, is of first importance to health. Our homes and schools must also be kept free from dust. In our homes there should be as few rugs and carpets as possible. These are often a means of harbouring dust. Ledges and corners also collect it, and should be absent from the well-planned house. Remember that there is danger in dust, and keep your duster damp. A dry duster is often a means of dislodging dust which only settles somewhere else. Always use the door mat, which should be at the entrance to every building.

GERMS.

Germs are so small that they cannot be observed by the naked eye. Even by the aid of powerful microscopes they are often hard to see. Therein lies their power of doing harm. If we could smite them with a hammer it would be easy to finish them off. But they are so tiny and have the power of lying hidden for such long periods that it is almost impossible to guard against their attacks. One of the chief germs which we have to contend against is that of tuberculosis, commonly called consumption. People get infected with this wasting

disease by drinking the milk of a cow that is sick with that malady. It may also be breathed in with dust that contains the germs from dried spittle which has been coughed up by a person suffering from con-

**Do NOT
SPIT.**

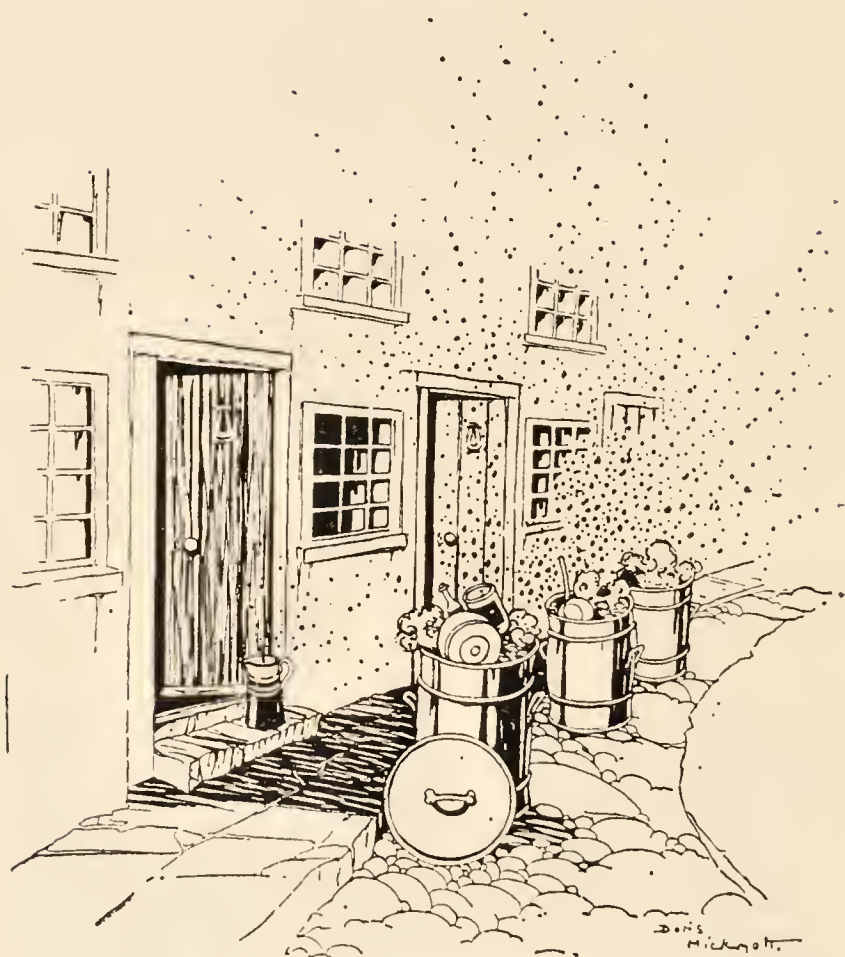


Germs, greatly enlarged, as seen through a microscope.

sumption. Many germs are spread by coughing and sneezing. Those of diphtheria and pneumonia are spread in this way. Germs from discharging ears are another source of infection. Typhoid fever may be spread by water that has become unclean, or by milk into which the germs have been brought by dirty hands in the process of milking.

**Do not
neglect a
Discharging
Ear.**

INSECTS.



The danger of the uncovered dust-bin.

Among insects, flies are great spreaders of disease. They ought to be regarded as vile

and dangerous, as they bring germs in from the street on their legs and bodies. Their breeding ground is a loathsome manure and decaying matter, and thing.” so we should make a rule to keep manure and dust-bins covered up, and to burn or otherwise get rid of all refuse. Milk is a food which is easily and often tainted by flies. There is an Eastern proverb : “ The fly knows the face of the milk-seller.” We should see that our milkman delivers his milk in stoppered bottles, so that it is kept pure and clean.

Some of the diseases which for long puzzled our doctors have in recent years been found to be due to the bites of insects which have the germs in their bodies. Fleas, for instance, which many people consider annoying rather than harmful, often bring illness. Those from a certain kind of rat cause plague. Lice spread fevers. Malaria, which at one time was thought to be caused by vapours from marshy places, is now known to be due to a mosquito which breeds there. The draining of these marshes has banished the mosquito, and with it malarial fever.

DAMP AND COLD.

Damp and cold are two more of our opponents that very often act together against us.

Particularly in our dwellings they do us harm. The reason for this is that as the moisture evaporates it chills everything that it surrounds, including our bodies. Thus our vitality is lowered, and we become more liable to infections such as influenza and rheumatism. It is desirable, then, to avoid living in houses that are built on low-lying or water-logged soils. In regard to our garments, likewise, sitting about in damp clothes and boots is likely to bring on illness of one kind or another, a common cold being the most frequent.

IMPURE AIR.

One of the most cunning and stealthy of our opponents is impure air. We are often not aware of its presence, while all the time our systems are being poisoned as we breathe. In theatres and cinemas, where the ventilation is often faulty, and where people in the closely packed audience cough and sneeze, many a point is scored against the health team. Our school-rooms even are not always free from blame in this respect.

Out of doors, the air in our towns is liable to become impure from the smoke of countless dwelling-houses and factories. This is the main cause of the fogs which settle on our towns in winter time. The effect that this bad atmosphere has on us may be imagined when we see the stunted trees and weakly plants that grow

in large industrial cities. To counteract the wiles of this adversary of ours is not very simple. Much is being done at the present time to lessen the smoke evil. In houses, the use of gas and electricity for cooking and heating will abolish this nuisance to a large extent, while in factories more careful stoking of furnaces and the introduction of electric power would be an enormous help. Then, in the improved atmosphere, there will be less excuse for failure on our part to keep our windows open, and the general health will be vastly improved.

IMPURE FOOD.

The last of our opponents in the forward line is impure food. Though coming last, it is by no means least. When food has been kept for any length of time, especially in hot weather, it is apt to become bad, and, through the action of germs, deadly poisons result. This is very liable to occur in the case of fish, which is not easily kept fresh. Oysters, mussels, and cockles, collected from shallow water which is often polluted by sewage, may cause enteric fever and other illnesses. Tinned foods sometimes go bad, either because the contents were not quite fresh when made up, or because the tin was not airtight. When this is the case you will notice that the end of the tin bulges out instead of being flat.

Meat, when exposed, never fails to attract flies and blue-bottles, which find it an ideal spot in which to lay their eggs, so that the meat goes bad in a very few hours.

You will see, then, how very necessary it is to eat only fresh food, and to keep it covered and protected from flies, dust, and germs. Fortunately, most germs are destroyed in the process of cooking. This ought not to lead to a false sense of safety, and the greatest cleanliness should be used in the handling and preparation of all food.

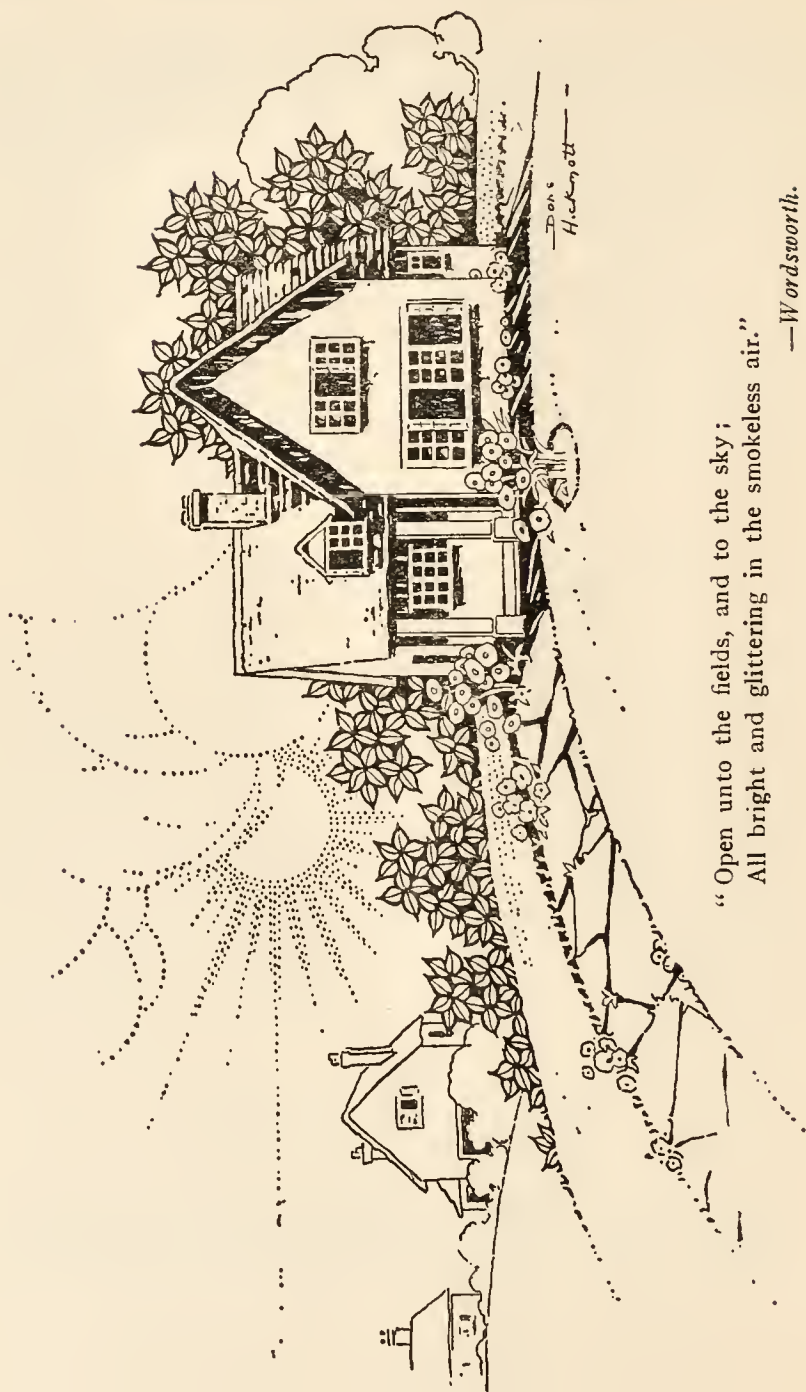
Backs : LAZINESS AND IGNORANCE.

The two opposing backs are Laziness and Ignorance. Both are big, lumbering fellows, and able to do a lot of mischief. Still, there should be no excuse for failure against laziness. He is easily overcome by the formation of good habits. With these and a few pushes he is soon disposed of. Ignorance is more difficult to beat. But with our knowledge of the rules of the game there should be little trouble even with him.

Goalkeeper : DISEASE.

Lastly, they have for their goalkeeper, Disease. He is still very formidable, but not so much so

since we have discovered a number of his tricks, as, for instance, that he sometimes puts germs in our food or into insects that bite us. He is rapidly losing his power, and the health team scores many goals against him.



“Open unto the fields, and to the sky ;
All bright and glittering in the smokeless air.”

—Wordsworth.

CHAPTER IV.

THE PLAYING FIELD.

ALL out-door games need playing fields. Anyone who has seen an important cricket or football match knows what care has been taken to see that the pitch is in the best condition. The smooth, green turf has been cut and rolled, and is good to look upon. If the weather has been very wet a covering is sometimes put over the wicket to prevent it becoming too soft. In the winter time the field may have to be protected from frost, so that the ground may not be too hard.

The pitch in the game of health is a little different from the usual type, but none the less we must strive to look well after it and prevent our opponents encroaching. There are no definite boundaries. Wherever man exists he has to play his game. In the frozen north the Esquimaux find the conditions hard to battle against, as also do the dwellers in desert places and tropical regions. Most of us, however, have a somewhat easier pitch. All the

inventions of civilization, though we have not always made the best use of them, help to make it so. Our homes, our surroundings, our schools, and our workshops are what we have to defend.

Taking the home first, as being the most important. Where should it be placed? Not on damp, low-lying ground near rivers, but on the higher ground and on dry and well-drained land. How should it face? Towards the south, so that it may get as much sunshine as possible. Houses should not be built too closely together, but should be separated by gardens. Where people are most crowded together infection from germs is most likely to occur.

The house itself will be well ventilated, capable of being easily cleaned, and with a proper number of bedrooms, which should face east, to catch the morning sun. There will be a bathroom with a good supply of hot water, and a larder for storing food. A sanitary dust-bin for rubbish must not be forgotten. Lighting, heating, and cooking will be done by gas or electricity, in order that there may be as little smoke and dust as possible. The house will be as far as may be from the main road, where all the traffic is passing. The roads will be smooth and tarred, to be easily kept clean. Near at hand there will be a park for recreation. Near the park will be the school, which will be an open-air one, and most of the teaching

will be done out of doors. The rule for our Playing Field will be "Cleanliness." A clean house in which to live, a clean school in which to learn, clean air to breathe, and a clean park in which to play.

CHAPTER V.

THE STRATEGY OF THE GAME.

THERE are certain other matters that have to be considered when we are playing the game of health. These make up the strategy of the game, and, if rightly used, do much to assist us to win.

FOOD.

We shall take the question of our food first, as it is probably the main factor that enters into the question of good health. Food is taken into the body to provide for its upkeep and to repair the waste of the tissues. It is also required for the supply of energy and heat, and for the growth of the body. The first essentials of food are that it should be enough in quantity, clean, and of the proper kind. No hard and fast rules can be laid down as to the amount of food that we require. This varies according to the individual and the conditions under which he lives. Appetite is a useful guide, unless when stimulated by highly seasoned food. When this is desired it shows that something is wrong with our

digestion, that it needs to be coaxed. There is no advantage to be gained in eating more than enough. It is a mistake to suppose that we can become strong merely by taking a large quantity of food. To eat too much merely clogs the system, and does harm rather than good by throwing extra work on the internal organs.

The growing youth needs plenty of nourishment, so that enough may be taken to supply material for growth. It has been calculated that a boy or girl of 12 to 13 years of age requires as much food as a grown-up person, and when sixteen years of age ought to have a third more.

If the individual is living in the open air and using his muscles in hard physical work, then he will require more than the average amount of food. On the other hand, the office or indoor worker should eat less, as he is not using so much energy. In the summer, or in hot climates, less food is needful than in the winter or in cold countries, when an extra amount of food has to be eaten in order to keep up the heat of the body.

With regard to the kind of food, various points should be noted. The human body is composed of 80 per cent. water and 20 per cent. solids. The solids consist of :—

- (1) Protein.
- (2) Fat.

- (3) Carbohydrates.
- (4) A small amount of mineral substances ; for example, lime and iron.

The food we eat must contain all these things, and, in addition, vitamins, which we shall describe later.



Grade A (Certified) Milk Bottle.

Proteins, or flesh-forming foods, are obtained from the flesh of animals, and from eggs, milk, nuts, peas, and wheat. Growing children require a comparatively large amount of this kind of food, as it contains the material used in

building up the body. Milk is specially valuable in this respect. One of the reasons for this is that milk is a perfect food. It, however, is easily made unfit for use, and may be affected with disease from the cow. Cows used to be kept in dark and dirty sheds, and no great care was taken that the milkers had clean hands or that the vessels containing the milk were clean. Within the last few years a great improvement has taken place in milk production throughout the country, though much still remains to be done. Milk can now be procured, in sealed bottles, which is guaranteed to be clean and from healthy cows. This is known as Grade A (Certified) milk, and it is the only milk that can be safely used without being boiled. On the farms from which it comes the cows must be examined from time to time, to make sure that they are healthy. The cowsheds must be clean, airy, and well lighted. The animals must be kept clean. The workers' hands and clothes must be clean, and the milking vessels must be made pure by steam. The milk is next put into clean bottles, which are then stoppered. And thus it reaches the consumer. The essential point in this process, as in everything else that affects our health, is the utmost cleanliness.

Fats are best partaken of in the form of butter, cheese, animal fat, etc. They supply heat and energy to the body. Butter is most valuable as a food, and is the most easily digested of the fats.

For our carbohydrates we depend on bread, sugar, potatoes, green vegetables, and fruits. Carbohydrates are energy producers. Many boys and girls eat too much of these in the form of sweets, which, being consumed between meals, interfere with the natural appetite for ordinary food.

The mineral substances are contained in sufficient quantity in the food we eat, with the addition of salt used for seasoning.

The daily diet of a growing child should have the following essentials :—

1. Porridge and milk (Grade A, Certified).
2. Meat or fish.
3. Whole-meal bread and butter.
4. Vegetables, potatoes or greens.
5. Fruit—apple or orange.

Plain food is best. Not so many years ago the diet of the Scots consisted mainly of oat-meal and milk. At the present time rice is almost the entire food of the Eastern races of Asia. Still, there is no need for us to use quite such simple fare, valuable though it is. From all parts of the earth our ships bring us food in great variety, and it would be foolish not to take advantage of novelty, which sharpens the appetite.

Good cooking and a well-laid table are great aids to digestion. If every girl were to learn

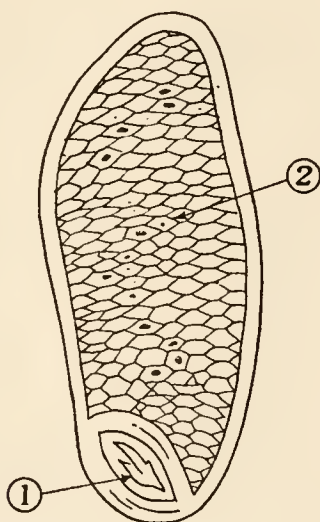
the values of foods and how to cook, the game of health would be more than half-won. Anything that appears to disagree should be avoided, and only that eaten which experience has shown to be easily digested. Water should be drunk freely between meals—taken with them it may dilute too much the digestive juices of the stomach.

Alcohol and tobacco should be avoided, as they interfere with digestion, and are otherwise harmful, especially to growing boys and girls. Athletes in training carefully shun them, and we ought to follow their good example.

VITAMINS.

In the days of the old sailing ships, when the voyages lasted many months, and it was impossible to keep a stock of fresh food on board, the crews were frequently affected with scurvy. Captain Cook, in the story of his voyages, tells how he tried to prevent the sailors becoming victims of this complaint. Recognising that it was owing to the lack of fresh meat and vegetables, he contrived to replenish his ship as often as he possibly could. Although Captain Cook knew nothing about vitamins, he had hit on the real cause of the disease. It is only very recently that their

presence in our food has been discovered. We do not know what they consist of, but we know that they are necessary for health and growth, and that the actual quantities required from day to day are very small. Most of them are derived directly or indirectly from plants,



Section of a wheat grain (enlarged), showing (1) the germ and (2) the starch cells.

which, in turn, get them from the sun. Thus the leaves of vegetables which contain them are valuable for food, and the parts of animals which store the vitamins derived from fodder are also of the greatest value. Milk contains them, and so do the livers and kidneys of animals. The oil derived from the liver of the codfish contains them in large quantity, which

accounts for the benefit obtained from taking cod liver oil. This has long been known as a valuable aid to growth, although it is only through the discovery of these vitamins that the reason of its value as a food has appeared.

Wheat and rice are two common articles of diet, the value of which largely depends on the presence of the life-giving germ. (When we speak of "germ" in this sense we do not refer to one of our opponents, but to that part of the grain from which the young plant develops.) The miller when he grinds corn into flour often destroys the germ of the wheat in order to make a fine white flour. In whole-meal bread the flour is ground to neither this fineness nor purity, but at the same time it keeps the germ of the wheat, which is the most valuable part of the flour. The same thing happens with regard to rice, which loses its main virtue in the process of being polished.

SUNLIGHT.

"When the sun comes in the doctor goes out."—(*Prov.*)

Sunlight is another factor which has an important influence on the play. We enter into the spirit of the game much more cheerfully on bright days. And, better still, the sun has an equally ill effect on our opponents. It seems to weaken their knees to a great

extent. They are not such stout fellows when the sun shines !

The sun is the source of life. Without its light there would be no life or growth. The value of sunlight in the treatment of disease was known from the earliest times. The Greeks and Romans were in the habit of taking sun baths, but in the so-called Dark Ages the world forgot to a great extent the benefits of sunshine. It is only in recent times that we have come to value sunlight, and to rely on it, not only to keep us healthy, but to act as a cure for all manner of disease.

Scientific study of the rays of the sun has told us the manner in which their health-giving properties act. Though the Romans and Greeks believed in the virtue of sunlight in the cure of disease, it is only now that we see their views had a basis on fact. It has been discovered that certain of the rays of the sun—the ultra-violet or dark rays—possess this power of healing.

At one time it was thought that plants were our only sources of vitamins, but this is not so, for, by exposing our skins to the sunlight, we can absorb vitamins in the same way as plants. Breeders of horses have long known how good it is for those animals if during the winter they are taken out of the stables and exposed to the sun on bright days. We ourselves know how well we feel when we bask in the sunshine of the spring and summer.

Sunlight is also the great destroyer of germs—a few minutes' exposure to the direct rays of the sun and they die. It is important, then, that we should have as much sunlight as possible—at anyrate in this country. In large industrial towns it has been found that nearly half the rays of the sun are cut off by reason of the cloud of smoke that hangs over them. Ordinary window glass also cuts off the health-giving rays, but a new kind that allows them free entry has recently been made, and will no doubt be used in the ideal homes of the future.

TRAINING.

It should be unnecessary to point out the advantage of training in playing games. We have written before on this point with reference to the training of our forwards, the eyes, ears, and the other members of the team. A certain amount of daily exercise is absolutely necessary for the muscles. If they do not get enough they will become soft and flabby. This exercise benefits all the organs of the body by sending the blood to flush them with its nourishing fluid, and to remove impurities from the system. Playing games in the open is the natural way of getting it. If we sit indoors all day poring over books and lessons we cannot expect to remain healthy. "All work and no play makes Jack a dull boy."

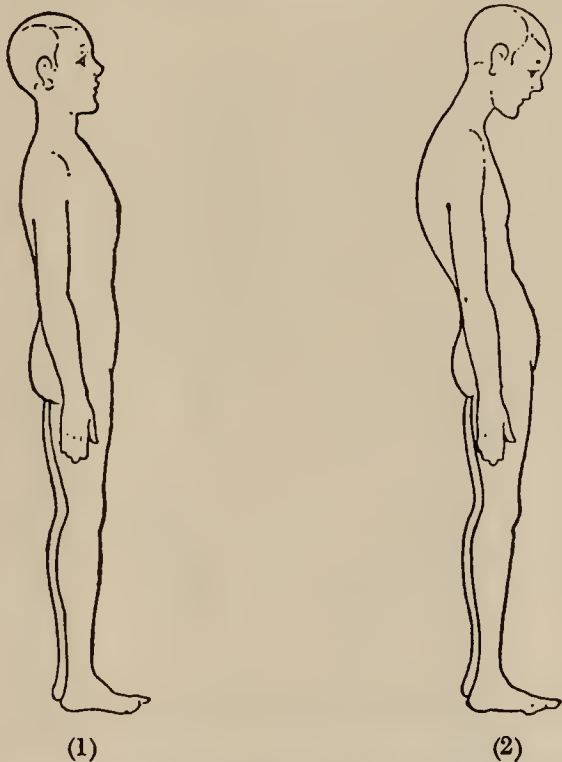
There are a few rules to keep in mind with regard to exercise. In the first place, it should be done in the open air. A certain amount of dust is always indoors, and this is stirred up if exercises are carried out there. A great deal of this dust is liable to be breathed in by the lungs, so that instead of getting good we may receive harm through taking in the germs of disease, which are ever present in dust.

Exercise should be taken regularly, and should be moderate in amount. If it is prolonged or too strenuous, as sometimes happens in boat-racing or in long-distance running, the heart may become over-strained. It should not be done just before or after meals, as that would interfere with good digestion.

Lastly, suitable clothing should be worn. It should be light in weight and loose-fitting, so that the chest and throat may be free and the limbs unfettered. One kind of exercise that may be done indoors, preferably with the windows open, is deep breathing. Exercises to improve our lung power do good in several ways. In the first place, they develop the breathing muscles, the diaphragm, and the chest muscles, as well as those of the lower trunk, which are also used in breathing. The muscles of the back, too, are strengthened, and these are important from the point of view of the proper way of standing and sitting. To practise regularly is beneficial, and brings health and fitness. Do these exercises every

morning on rising and just before going to bed. But be sure that your nostrils are clear before you begin.

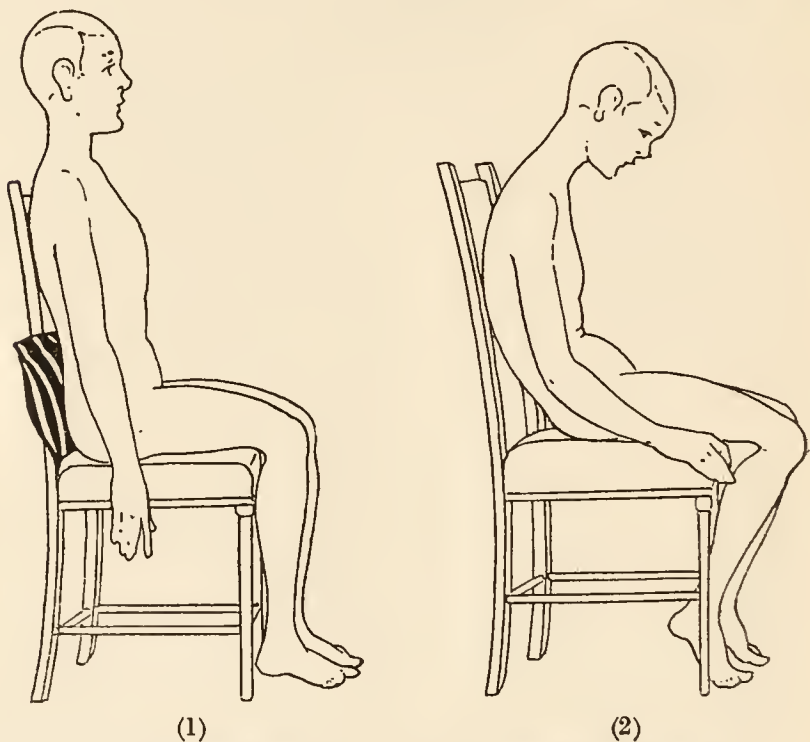
POSTURE.



(1) Correct position and (2) incorrect position of standing.

The spine is composed of a number of separate bones, which allow of a slight amount of movement between them. It also has natural curves which, when increased or lessened, cause

the body to be in a faulty position. Now, correct position of the body is important in all games. In cricket, golf, and indeed any game, this is necessary for easy movement. So in



the health game, failure to learn it in youth makes play bad or difficult. The body gets fixed in the wrong position, and the mischief cannot be undone in later life.

The correct and incorrect positions for standing and sitting are shown in the diagrams.

If you look at your reflection in the mirror when you are stripped you will be able to tell which class you come under. No. (1) is the correct position, and requires the least amount of muscular effort to maintain. Remember that it is as important to sit well as to stand well.

Just consider what happens if you stand wrongly or sit in an incorrect position. The chest is compressed and the lungs are unable to expand properly. In the same way the action of the heart and circulation and the work of the digestive organs are all interfered with. One cause of this faulty position in young people is lack of enough rest. The muscles that support the back become tired and are unable to keep the body in the right attitude.

Most boys are very proud if they can show that they have a large biceps. It is much

<p>Better be proud of your Back than your Biceps.</p>	<p>better to be proud of the muscles of the back, chest, and lower trunk. These are the muscles most concerned in posture. If you perform daily the exercises described below your postural</p>
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muscles will be strengthened and a faulty position prevented, with much benefit to your health, your appearance, and your games.

1. Stand erect with feet apart ; stretch the arms straight above the head ; keep the

arms straight and slowly bend forward as far as possible without bending the knees ; now come back slowly to the first position. (See that the nose is clear before starting the exercise ; keep the mouth shut, and breathe out slowly during the downward movement and breathe in during the upward movement).

2. Stand a few inches from a wall with feet apart and with your back to the wall, hands on hips. The head should rest against the wall. Now rise on tip-toe, and as the heels come down on to the floor again the head should slide down the wall, thus arching the back.

Both these exercises should be done a few times morning and evening.

SLEEP.

All human beings need to have enough time for sleep if they are to remain healthy. For young people especially is this necessary if they are to grow and be strong. Sleep is required for the repair of the wear and tear of the body. The brain and other organs and tissues cannot go on without sleep. Even the hard-worked lungs and heart need their rest.

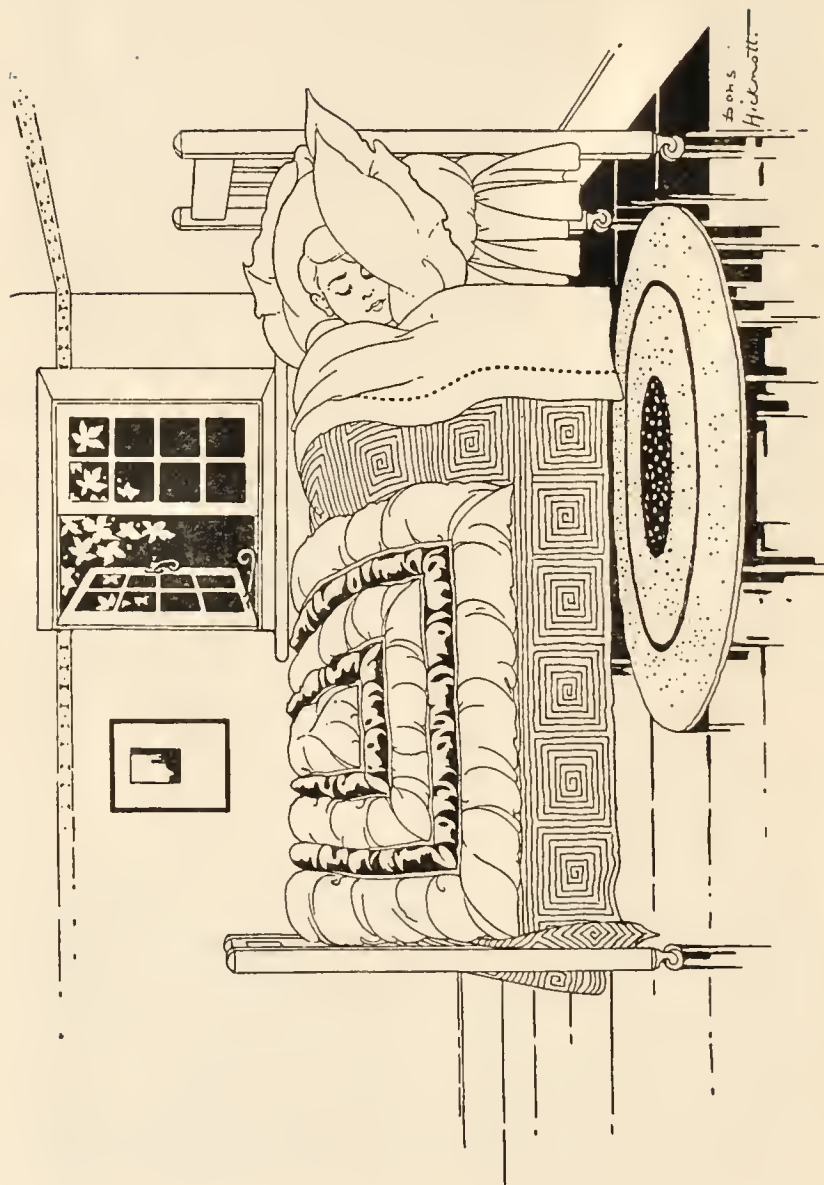
If there is one thing more than another that

is harmful to health, it is want of enough sleep, especially at the growing age. Before the discovery of the modern inventions of gas and electric light, people went to bed when it became dark, but since these artificial lighting systems have come into use, they are apt to stay up too late, with evil effects to their health. Too much excitement at evening entertainments is hurtful to boys and girls, and often interferes with their sleep.

There is a growing habit, also, since summer time was started, to go to bed too late. The excuse is given that children cannot sleep when it is still daylight. But we must remember that in the northern half of this country, where in summer it is much longer light than in the south, children have always gone to bed in daylight. As Robert Louis Stevenson says :—

“ And does it not seem hard to you,
When all the sky is clear and blue,
And I should like so much to play,
To have to go to bed by day ? ”

For healthful sleep the bedroom windows should be open as much as possible, in order to keep the air of the room fresh and cool. There should be only as little furniture as is absolutely necessary in the bedroom. The bedclothes should not be too heavy, and should be suitable to the temperature of the atmosphere. People who are subject to rheumatism



Sweet, healthy sleep.



The law-breaker.

should sleep between woollen blankets. It is better to sleep on the side than on the back. Sleeping on the back leads to snoring and the habit of keeping the mouth open, which, as has already been said, may cause growths, called adenoids, to form at the back of the nose. Here are the times when young people should be in bed :—

<i>Age.</i>				<i>Bed-Time.</i>
5- 6 years,	.	.	.	6.30 p.m.
6- 8 years,	.	.	.	7 p.m.
8-10 years,	.	.	.	7.30 p.m.
10-12 years,	.	.	.	8 p.m.
12-14 years,	.	.	.	8.30 p.m.
14-16 years,	.	.	.	9 p.m.
16-18 years,	.	.	.	9.30 p.m.

CLOTHING.

Since man began to clothe himself with garments of varying thickness in order to protect himself from cold and heat, he has been inclined to neglect the parts covered up —“out of sight, out of mind.” In this way the skin loses its power to a certain extent by the use of clothing, and we miss the good which might be had from exposure of our skin to the sun and air. An example of the ill effects of wearing clothing has been noticed among native

ances. In New Zealand the Maoris, so long as they kept their simple habits of life in the open air and wore scanty clothing, were healthy. When they began to adopt our habits of living and to imitate our methods of clothing, they rapidly became victims of disease.

The clothing of the Ancient Britons is generally thought to have consisted mostly of paint. In that case, they must have been hardier than we are, but perhaps not so comfortable ! As a matter of fact, pieces of cloth, said to belong to the Stone Age, are in existence. So it seems that the art of weaving, in Britain, dates back to a period some considerable time B.C.

There is no doubt, however, that the sun's rays have a good effect when they are allowed to act on the skin. We know that, through the agency of the sun, vitamins are stored in the outer coverings of fruits and leaves, so that probably, as has been said before, the same effect is produced by the sun on the skin of our bodies.

By means of our clothing we keep up the heat of the body. The power which materials possess of retaining air in their meshes is the cause of their warmth, and our garments hold a layer of air which is kept constantly warm by contact with the body.

Clothing is usually made of wool, cotton, or silk. For temperate climates like our own, wool is almost indispensable. It is a bad conductor of heat, so that it is invaluable in

the winter time. When we speak of materials being bad conductors of heat we mean that they remove or conduct very little heat from the body but retain most of what they receive. In hot countries and in the summer time woollen garments are not so necessary, and cotton and silken clothing are more suitable.

The important point is that of comfort. One should not feel uncomfortably hot or cold. Keeping this in mind, clothing should be as light as possible. If, for instance, a heavy overcoat is worn when a lighter one would be warm enough, it merely means that an unnecessary weight is being carried about. There should be no tight neckband or belt to interfere with the free flow of the blood. The modern dress of girls with its open neck is much better in this respect than the tightly fitting neckband and collar so often seen on boys. It is important, then, that there should be no clothing worn which hampers the free movement of any part of the body.

From the point of view of warmth a loose dress is better than a tight one. The reason is that the former encloses a thin layer of air which the latter cannot do. In the same way a loose glove or boot is to be preferred. The furs of animals and the feathers of birds illustrate the principle on which we should clothe ourselves. Furs and feathers are very light, their warmth being due to the air which they retain.

Remember to adapt your clothing to the occasion. If one is playing games one naturally wears suitable clothing. It is important that under-garments should be changed after exercise causing much sweating, as the drying of the moisture chills the body, and illness may follow.

The one drawback of clothing, as has already been said, is that it prevents sunshine and air from reaching the skin, so that it is advisable to leave as much of our bodies exposed as possible—that is, without either feeling chilly or becoming blistered by the sun. Lastly, remember that both young and elderly people require to be warmly clad, as they have less power of producing heat than those in the prime of life.



The Health Team scores a goal.

CHAPTER VI.

THE SCORE.

ALL games have some method of scoring. In the health game we are classified, according to our success or failure, into three groups, A 1, B 2, and C 3.

In the A 1 group are the players who have obeyed all the rules. Success can be read in their faces and in their bearing. They walk with head erect and step out easily. Very few of us could fail to reach this group if we really tried, but, alas, not many do attain it. Group B 2 contains the bulk of people. Through ignorance or laziness they have neglected the laws and suffer in consequence. They are round-shouldered and pale-faced, and probably troubled with indigestion and other ailments. In the third group, C 3, are those who have made a habit of breaking the rules or have, unfortunately, fallen victims to disease. There is no mistake about it, the score accurately reflects the run of the play.

Our growth should show as much as anything how we have been playing the game. It is interesting to watch young plants grow up into tall flowers and trees. If they have

good soil and plenty of sunshine and rain they shoot up almost before one's eyes. If, on the other hand, they are on poor soil, or are crowded out with weeds or other plants, they become stunted or die out.

The same thing happens with boys and girls who live in our crowded cities. They have not enough room; the dust in the air is harmful, and the smoke shuts off the sunlight they require. If they are to grow up into healthy men and women they must live in healthy surroundings. The flower that has been sown in good soil and has plenty of sunshine carries off the prize. In the same way, the big and healthy people are the ones who succeed. Of course, size is not everything, as the Giant found out when Jack got at him or when David slew Goliath. Still, it is a decided advantage to be big, as you know when you play games. There is a common saying that "A good big one is better than a good little one." Besides, the boys and girls who grow best gain the prizes in their school work and in their games. Make up your minds, then, to be big; as the poet says :—

"It is excellent
To have a giant's strength."

Growth means increase in height and weight. Beginning with infancy, when it is most rapid, growth continues more or less regularly up to the age of 18 years. After that time a gain in height is not to be expected, though, of course,

there may be an increase in weight. There is a normal relation between height and weight. The following tables give the ratios of height and weight at different ages :—

Age in Years.	Height in Inches.	Weight in Pounds.
5	40	38
	41	40
	42	41
6	43	42
	44	45
7	45	46·5
	46	50
8	47	52
	48	54
9	49	55
10	50	59·5
	51	62·5
	52	66
11	53	68·5
	54	71
12	55	74
13	56	77·5
	57	82
14	58	86
	59	91
15	60	94·5
	61	99
16	62	103

A certain variation is allowable, but too much one way or the other shows that some of the conditions for correct rate of growth are lacking. It is useful to measure and weigh yourself at intervals as a check on your habits of life. If there has been no gain in weight when there ought to have been one, or if there has actually been a loss, what rule of the game has been broken? Again the captain has to find out which member of the team has not been "playing the game," and call him to order.

Good food, healthy surroundings, exercise, and good habits of living generally, all help growth. Certain articles of diet favour it, and recent food experiments on young children have shown that milk is especially valuable during the growing period. One great enemy of growth is want of enough rest. Nothing is more necessary than this, for during sleep growth is most pronounced.

The period of growth is the most important time of life, since upon satisfactory growth and development then the efficiency and well-being of adult life depend.

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In the course of this book a number of rules have been laid down for the different members of our team. These seem rather alarming when looked at as a whole, but really they can easily be carried out every day of our lives with very little trouble. Before you play any game you

must first become familiar with the rules, so that when you are actually playing you instinctively obey them.

Remember that others are playing their games of health alongside you, and that in so far as you are playing the game you are assisting them to do the same.

Then, if you want to win in the great Game of Health—and who does not?—study these rules, learn them, practise them till they become habits, and victory is assured.

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